

Remarks

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

The specification and abstract have been reviewed and revised to make a number of editorial revisions. A substitute specification and abstract have been prepared and are submitted herewith. No new matter has been added. Enclosed is a marked-up copy of the specification and abstract indicating the changes incorporated therein.

Enclosed herewith is a substitute formal drawing for Figure 19 correcting the direction of the arrow labeled with the reference number "16". It is submitted that no new matter has been added by this amendment.

The Applicant hereby requests that the Information Disclosure Statements filed with the Patent Office on July 16, 2003 and June 20, 2001 be considered by the Examiner. The Applicant also requests that the Examiner return an initialed copy of the PTO 1449 forms which were filed as part of the Information Disclosure Statements of July 16, 2003 and June 20, 2001.

Claims 6, 7 and 13-17 have been rejected under 35 U.S.C. §102(e) as being anticipated by Koops (US 6,075,915). Claim 34 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Koops in view of Bowen (US 4,676,588).

Claims 1-5, 8-12 and 35 have been allowed. Claims 18-33 have been indicated as containing allowable subject matter. The Applicant would like to thank the Examiner for this indication of allowable subject matter.

Claim 6 and withdrawn claims 36-53 have been canceled without prejudice or disclaimer to the subject matter contained therein.

Claims 1-5, 7-18, 20, 21 and 23-35 have been amended to make a number of editorial revisions. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, nor to address issues related to patentability and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

Further, claim 7 and 13 have been amended so as to overcome the above-mentioned rejections. Therefore, the rejections are submitted to be inapplicable to the claims for the following reasons.

Claim 7 is patentable over Koops, since claim 7 recites a method of fabricating a photonic crystal including, in part, forming, in a predetermined section of along an optical axis of an optical fiber having a core adapted to have light propagate therethrough and a clad surrounding the core, at least one pair of planes parallel to the optical axis by partially removing the clad in the predetermined section from the optical fiber toward the core. Koops fails to disclose or suggest a forming operation as recited in claim 7.

Koops discloses a number of embodiments of in-fiber photonic crystals. In one embodiment, a photonic crystal 11 is formed within a trench 12 of an optical fiber 13 having a core 14. The photonic crystal 11 has a plurality of dielectric rods 16 arranged in a matrix on the trench 12. The trench 12 is formed by either lithography, dry or wet etching, or by laser or ion ablation. (See column 2, lines 46-63 and Figure 1).

Based on the above discussion, it is apparent that the bottom of the trench 12 forms a plane parallel to an optical axis of the optical fiber 13. However, Koops fails to disclose or suggest forming at least one pair of planes parallel to optical axis by partially removing the clad in the predetermined section from the optical fiber toward the core. As a result, Koops fails to disclose or suggest the present invention as recited in claim 7.

As for Bowen, it is relied upon as disclosing a guide for surrounding an optical fiber. However, Bowen also fails to disclose or suggest a forming operation as recited in claim 7.

Claim 13 is patentable over Koops and Bowen for similar reasons as set forth above in support of claim 7. That is, claim 13, like above claim 7, recites, an optical device having, in part, an optical fiber having a core adapted to have light propagate therethrough and a clad surrounding the core, wherein a portion of the clad in a predetermined section of the optical fiber has been removed from the optical fiber toward the core to form at least one pair of planes parallel to an optical axis of the optical fiber, which feature is not disclosed or suggested in the references.

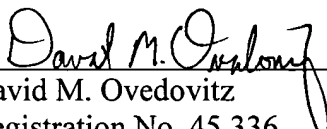
Because of the above mentioned distinctions, it is believed clear that claims 1-5 and 7-35 are allowable over the references relied upon in the rejections. Furthermore, it

is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 1-5 and 7-35. Therefore, it is submitted that claims 1-5 and 7-35 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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